CLAIMS

1. An impeller for superchargers, which is produced by a lost wax casting method, comprising

a center axle;

a disk-shaped hub extending radially from the center axle; and

a plurality of blades extending from the hub, which blades consist of alternately arranged full and splitter blades each having an aerodynamic curved surface,

wherein a space defined by an each pair of the adjacent blades forms an undercut extending radially from the center axle, and

wherein there are present parting line-correspondence portions only at a trailing edge face, a fillet face and a leading edge face, by which an outer periphery of the respective full blade is defined, in the respective space defined by an adjacent pair of full blades.

wherein there are present parting line-correspondence portions "only at a trailing edge face, a fillet face and a leading edge face, by which an outer periphery of the respective full blade is defined", in the respective space defined by an adjacent pair of full blades.

2. The impeller for superchargers according to claim 1, which is made of a titanium alloy.

3. The impeller for superchargers according to

claim 1, which is made of an aluminum alloy.

4. The impeller for superchargers according to claim 1, which is made of a magnesium alloy.

5. The impeller for superchargers according to any one of claims 1 to 4, wherein the impeller is used at an intake side of the supercharger.

6. A method of manufacturing an impeller for superchargers by a lost wax casting process, the impeller comprising:

a disk-shaped hub extending radially from a center axle; and

a plurality of blades extending from the hub, which blades consist of alternately arranged full and splitter blades each having an aerodynamic curved surface,

wherein a space defined by an each pair of the adjacent blades forms an undercut extending radially from the center axle,

wherein the method comprises the following steps of:

(a) forming a sacrificial pattern having substantially the same form as the impeller,

(b) coating the sacrificial pattern with a refractory material and subsequently thermally removing the sacrificial pattern to form a casting mold, and

(c) casting the impeller with utilization of the casting mold, and

wherein the step (a) of forming the

sacrificial pattern is a process of injecting a sacrificial material into a cavity defined by a plurality of slide dies which are arranged radially toward the center axle, and each of which has a groove, having a bottom of the same form as the splitter blade, and a form corresponding to that of a space between an adjacent pair of the full blades; and subsequently moving the slide dies radially outwardly, while rotating themselves thereby releasing them from the sacrificial pattern.

7. The method according to claim 6, wherein a die device used in the step (a) of forming the sacrificial pattern comprises a movable die which moves in a direction of a center axle of forming the sacrificial pattern; a stationary die, the slide dies movable radially with respect to the center axle; and slide supports for supporting the slide dies, whereby the slide dies can be moved in conjunction with one another by driving the slide supports.

8. The method according to claim 6 or 7, wherein each of the slide dies comprises a plurality of cores bonded integrally with one another.

9. The method according to any one of claims 6 to 8, wherein motional lines for releasing each of the slide dies from the sacrificial pattern are a motional line on XY coordinates on a two-dimensional plane, to which the center shaft of the impeller is a perpendicular, and a motional line including a

rotational component around the motional line on the XY coordinates.

10. The method according to any one of claims 6 to 9, wherein the casting mold is formed by coating the sacrificial pattern with any one of zirconia-based, yttria-based and calcia-based refractories, further coating the sacrificial pattern with any one of silica-based, alumina-based and zircon-based refractories, drying the refractory materials, thermally removing the sacrificial pattern in an autoclave, and calcining the resultant refractory materials at a high temperature.

11. The method according to any one of claims 6 to 10, wherein any one of a titanium alloy, an aluminum alloy and a magnesium alloy is cast in the casting mold.